

DIY WiFi

WiFi DEPLOYMENT DESIGN

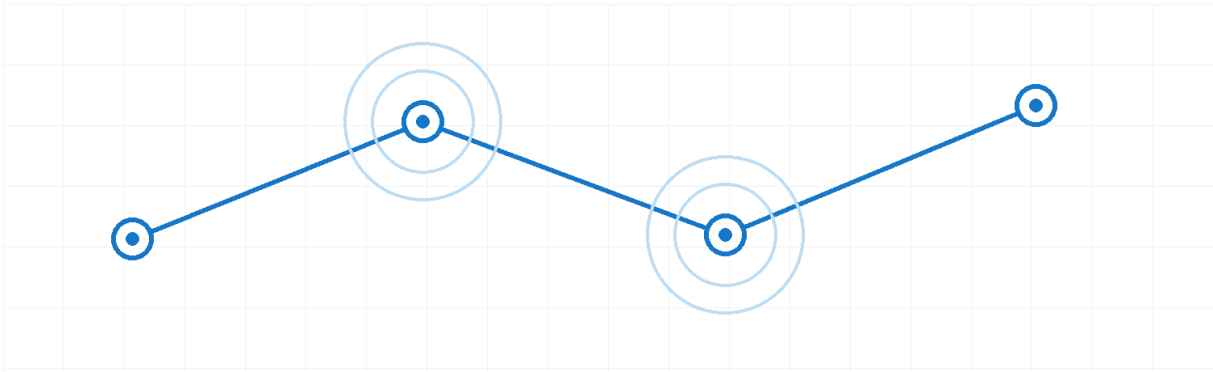
Do it yourself.

We design your WiFi deployment. You install it.

Example Project

WiFi Deployment Design

REPORT DATE	23 August 2026
REFERENCE	DIY-EP-260823
VERSION	1.0
PROJECT TYPE	Residential new build



Know where it goes. Know what to buy. Do it yourself.

DIY WIFI DEPLOYMENT DESIGN

Your WiFi deployment.

A practical plan for a new home, including the attached flat, garage and requested garden coverage.

Project	Example Project
Property	Single-storey residential new build with attached flat and double garage
Internet hand-off	Chorus ONT inside the garage electrical cabinet
Gateway	UniFi Cloud Gateway Ultra in the same electrical cabinet
PoE switching	UniFi Switch Ultra 60W (USW-Ultra-60W) in the garage cabinet
Access points	4 total: 3 × U7 In-Wall and 1 × U7 Pro Outdoor
Outdoor requirement	Decent WiFi across the outdoor living and garden area
Design view	Predicted 5 GHz coverage based on the supplied plan and AP positions
Cabling scope	Four dedicated Cat6, 23 AWG AP cables installed by the electrician and run back to the garage

DESIGN INTENT

Provide strong, convenient WiFi throughout the main home and flat, with a dedicated outdoor AP supporting the customer's requested garden and outdoor-living coverage.

This report is a deployment guide for the WiFi system. It can be handed to the builder and electrician so the four AP cable routes, wall terminations and mounting positions are prepared before the walls are closed.

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The building plan.

The supplied architectural floor plan, shown without WiFi markup.



Original floor plan supplied for Example Project.

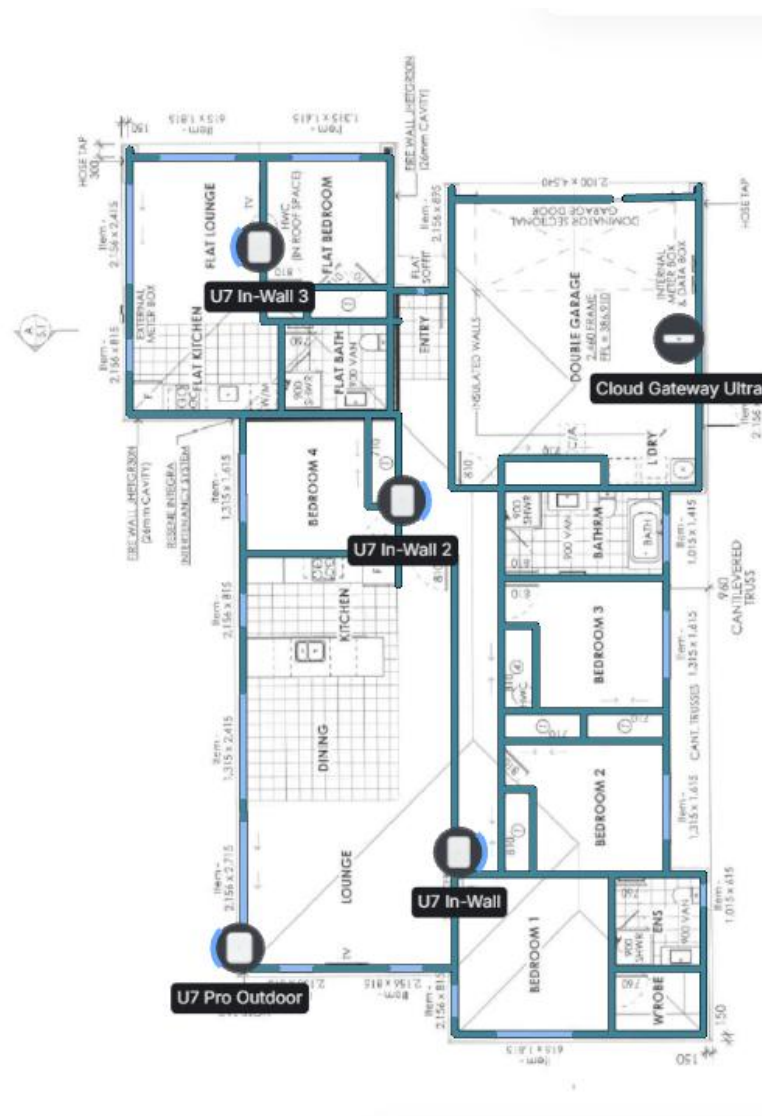
WHAT WE REVIEWED

A single-storey layout with the main home, an attached flat and a double garage. The garage electrical cabinet is the network starting point beside the Chorus ONT.

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Where the WiFi goes.

The AP and gateway positions below are the authoritative deployment positions supplied for this project.



WiFi deployment plan — do not move an AP without updating the design.

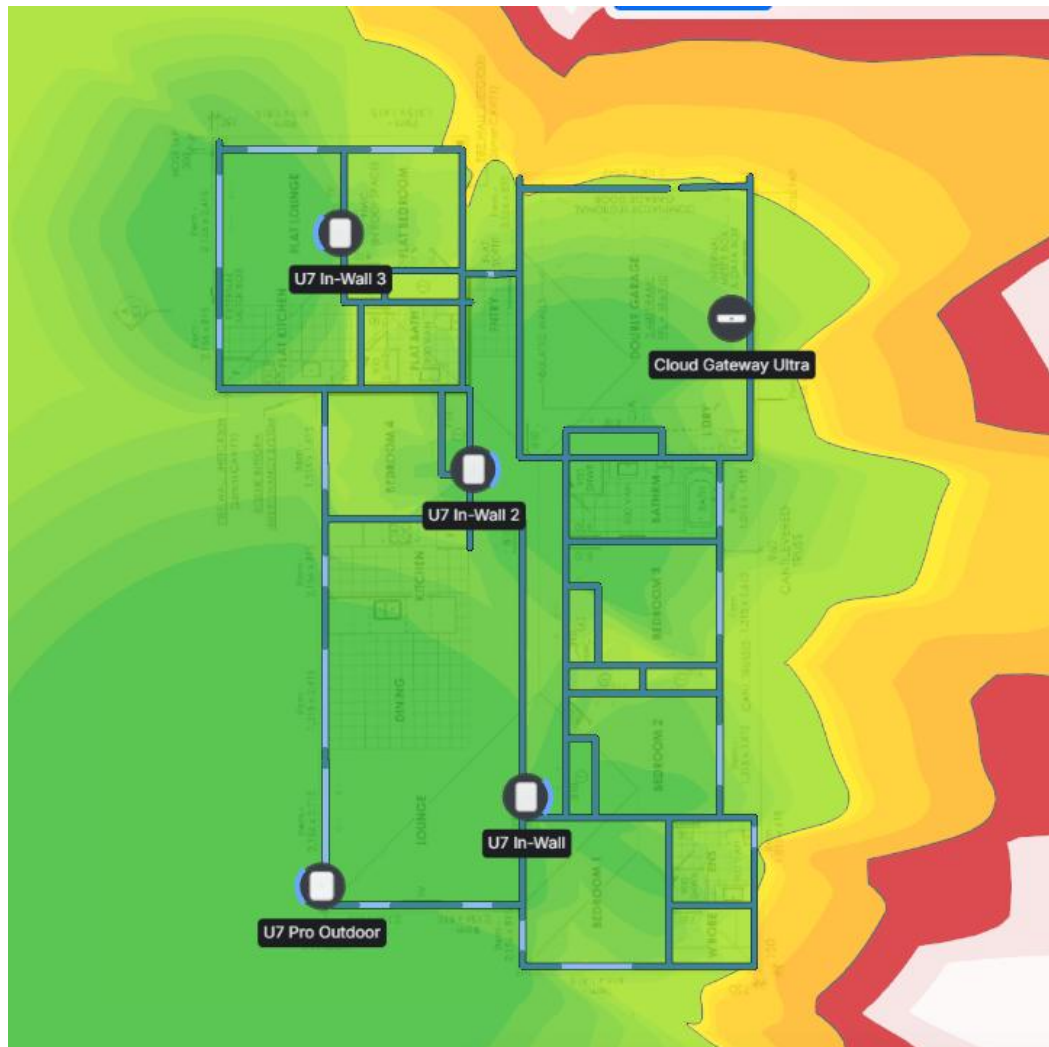
INSTALLER NOTE

The electrician is to confirm each exact wall and mounting height before lining, then run every AP cable directly back to the garage cabinet. Do not daisy-chain AP uplinks.

DIY WIFI DEPLOYMENT DESIGN

Predicted 5 GHz coverage.

A modelled view of signal distribution using the supplied AP positions.



5 GHz coverage plan. Colours are relative because no dBm legend was supplied with the model.

COVERAGE READING

The model shows broadly strong coverage through the main living spaces, bedrooms, attached flat and the garden side closest to the outdoor AP. Signal reduces progressively farther beyond the building and toward the outer edges of the property.

Prediction is a planning tool, not a guarantee. Framing, wall linings, insulation, glazing, joinery, landscaping, neighbouring networks and final radio settings can change real performance. Validate the finished installation with a site survey and adjust channels or power before considering any AP relocation.

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Access point schedule.

Four wired APs cover the house, flat and requested garden area.

REF	MODEL	SERVES	INSTALLATION NOTE
AP-01	U7 In-Wall	Flat living / bedroom end	Wall mount at the marked location; keep the front unobstructed.
AP-02	U7 In-Wall	Central house / Bedroom 4 zone	Wall mount at the marked location; confirm final height before lining.
AP-03	U7 In-Wall	Main lounge / Bedroom 1 end	Wall mount at the marked location; avoid furniture or TV obstruction.
AP-04	U7 Pro Outdoor	Exterior by lounge / dining	Aim toward outdoor living and garden; weatherproof the cable entry.

Cabling and PoE requirements

- Install one dedicated Cat6, 23 AWG cable from the garage cabinet to each AP — four AP home-runs in total.
- At each AP, bring the permanent cable through the marked wall opening and leave a service loop for termination. Label and test every run before handover.
- Provide PoE+ switching for the outdoor AP and all three in-wall APs. Do not rely on the Cloud Gateway Ultra for PoE power.
- For the outdoor AP, route the Cat6, 23 AWG cable to the marked position, seal the building penetration and fit the manufacturer's cable-gland door kit in accordance with the installation guide.
- Keep mains separation, fire stopping and penetration work compliant with the project specifications and applicable New Zealand requirements.

SCOPE BOUNDARY

This WiFi report does not include Ethernet outlets or cable design for televisions, desks, gaming equipment, cameras or other fixed devices. Those should be scoped separately if required.

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Equipment under separate quotation.

The models below are specified for the approved deployment and will be priced separately by DIY WiFi.

QTY	ITEM	PURPOSE / NOTE
1	Cloud Gateway Ultra	Internet gateway and UniFi Network controller; located beside the Chorus ONT.
1	Switch Ultra 60W	USW-Ultra-60W; seven PoE+ output ports; compact desktop, wall or magnetic mounting.
3	U7 In-Wall	Wall-mounted WiFi 7 APs for the indoor zones shown on the plan.
1	U7 Pro Outdoor	Outdoor WiFi 7 AP for the requested outdoor-living and garden coverage.

Network layout

CONNECTION ORDER

Chorus ONT → Cloud Gateway Ultra → Switch Ultra 60W → four dedicated Cat6, 23 AWG AP cables.

SPECIFICATION COORDINATION

The switch provides 52W total PoE availability with its included 60W AC adapter. The three U7 In-Wall APs and one U7 Pro Outdoor have a combined published maximum consumption of 60W. DIY WiFi should confirm the final PoE budget before equipment is ordered or commissioned; do not use the U7 In-Wall PoE output ports unless the budget has been reassessed.

Allow accessible cabinet space for the gateway, switch power adapter and cable bend radius. Maintain ventilation, including at least 20 mm of clearance beside switch ventilation openings, and do not pack active equipment tightly against electrical gear.

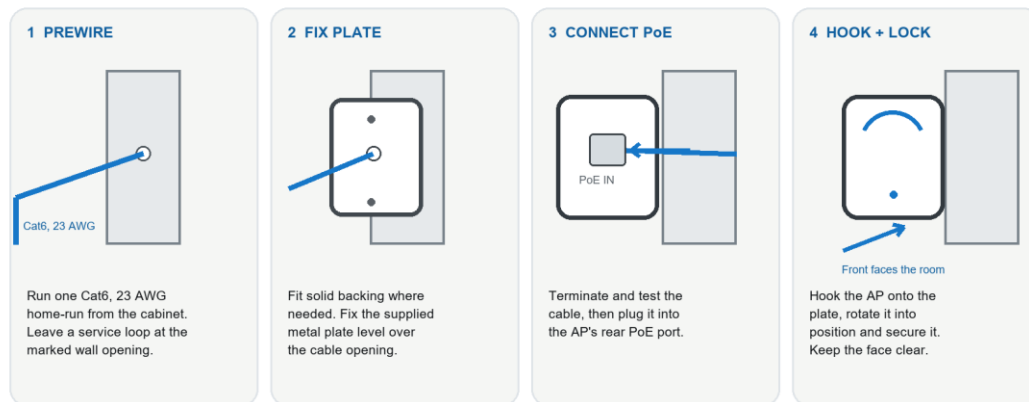
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How the in-wall APs are installed.

The U7 In-Wall is a surface-mounted wall AP: the cable is concealed, while the AP sits neatly over its metal mounting plate.

U7 In-Wall — example new-build installation

Original illustration based on Ubiquiti's current U7 In-Wall installation guide.



Important: confirm the final wall, height and clearances before lining. Do not hide an AP behind furniture, a TV or metalwork.

Example only — follow the current Ubiquiti U7 In-Wall installation guide and the supplied hardware on site.

NEW-BUILD COORDINATION

Before wall linings are fitted, confirm the marked wall, finished height, backing and cable opening. Do not assume a standard New Zealand flush box will suit the supplied plate without checking the actual hardware.

Mounting essentials

- Bring the dedicated Cat6, 23 AWG cable through the wall opening with enough slack to terminate and service the AP.
- Fix the supplied metal wall plate level and securely to suitable backing or the approved mounting surface.
- Connect the tested cable to the rear PoE input, then hook and lock the AP onto the plate.
- Keep the AP face clear of furniture, televisions, metal cabinets, curtains and large appliances.

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Model-specific installation notes.

The electrician and installer should follow the supplied hardware and current UniFi guides for the exact quoted models.

U7 Pro Outdoor

- Use the included wall-mount hardware at the marked exterior location and keep the cable entry at the bottom of the unit.
- For an exposed installation, fit the supplied cable-gland door kit so the installation can achieve the manufacturer's stated IP67 weatherproofing arrangement.
- Confirm that the installed Cat6, 23 AWG cable is compatible with the supplied gland, and seal the wall penetration as part of the building envelope work.
- Orient and configure the AP to serve the outdoor living area and garden shown on the coverage plan. The guide supports directional internal antennas or supplied external omnidirectional antennas; confirm the intended mode during commissioning.

Cloud Gateway Ultra

- Place the compact desktop gateway inside the garage electrical cabinet beside the Chorus ONT, as shown on the deployment plan.
- Provide its included USB-C power supply, a dry ventilated position and access to the WAN and LAN ports for commissioning and future service.
- The Cloud Gateway Ultra does not provide PoE power to the access points; AP power is supplied by the specified UniFi switch.

Switch Ultra 60W

- Install the switch in the garage cabinet using a supported desktop, wall or magnetic arrangement and the included 60W AC adapter.
- Keep the switch dry, accessible and ventilated, with at least 20 mm clearance beside ventilation openings.
- Connect the four labelled AP home-runs to PoE+ output ports and verify the live PoE budget during commissioning.

INSTALLATION AUTHORITY

These notes summarise the manufacturer information for coordination. The electrician and installer must use the current UniFi installation guides and the hardware supplied with each product on site.

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Build, commission, enjoy.

A short handover checklist keeps the finished WiFi aligned with the design.

Before the walls close

- Confirm all four AP positions and the outdoor AP's direction against the marked plan.
- Photograph cable routes and mounting preparation before linings conceal them.
- Label both ends of every AP cable and verify continuity and performance.
- Confirm cabinet power, ventilation, ONT position and space for the gateway, switch and cable terminations.

At commissioning

- Adopt the gateway, switch and APs in UniFi Network; update firmware before final tuning.
- Use one consistent WiFi name unless separate guest or flat networks are intentionally required.
- Select channels and transmit power after checking the on-site radio environment.
- Walk-test the main rooms, flat, outdoor living and garden on 5 GHz; record any material difference from the prediction.

IMPORTANT

Do not move an AP simply because one test location is weaker than expected. First confirm cabling, AP orientation, channel use and transmit power; then update the design if relocation is genuinely required.

Design basis and limitations

This report is based on the supplied building plan, approved AP positions and predicted 5 GHz coverage image. It is a practical WiFi deployment design, not a radio-frequency guarantee, electrical design, general structured-cabling design or installation certification. It excludes cabling for televisions, desks, computers, cameras, alarms and other non-WiFi devices. Final equipment compatibility, regional model availability and installation compliance remain the responsibility of the installer and purchaser.

Official product references checked 23 August 2026: [U7 In-Wall specifications](#) • [U7 In-Wall installation guide](#) • [U7 Pro Outdoor specifications](#) • [U7 Pro Outdoor installation guide](#)

[Switch Ultra 60W specifications](#) • [Switch Ultra 60W installation guide](#) • [Cloud Gateway Ultra specifications](#) • [Cloud Gateway Ultra installation guide](#)

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